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ARTICLE

User wellbeing: an entry point for collaboration between occupational therapy and design

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ABSTRACT

Design has become more focused on the user and wellbeing. Occupational therapists can form a valuable bridge between health and design by sharing significant insights about user, environment and occupation. Designers and occupational therapists share a creative, participatory and user-centred perspective. Members of both professions report low rates of collaboration, but that can change with a conscious effort to increase awareness and create opportunities to partner. As with any interprofessional collaboration, both professions' profit, however, in this case there is an even greater beneficiary: the user.

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Introduction

Over the past half century, design has shifted to a more user-centred, participatory and collaborative focus, 'from designing *for* people to designing *with* people and *by* people' (Sanders and Stappers 2014, 25). The origins of this transformation can be traced to the 1970s, when Victor Papanek's (1972) seminal book, *Design for the Real World*, harshly criticized frivolous and useless products and called on designers to lend their craft towards the creation of a more responsible and sustainable society. This marked the emergence of social design, which focused on social needs 'ranging from the needs of developing countries to the special needs of the aged, the poor and the disabled' (Margolin and Margolin 2002, 24). Participatory design emerged in Scandinavia at roughly the same time, with a political view of democratization and a belief that people should be able to have a role in designing systems that are intended for them (Gregory 2003). Against that background came the rapid technological changes of the 1980s, when personal computers and Internet service entered the homes of ordinary people, providing the tools and connectivity needed to express

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creativity (Sanders and Stappers 2014). The term 'user-centred design' (Norman and Draper 1986) arose from computer-based technologies and their focus on usability, activity analysis and iterative design (Ritter, Baxter, and Churchill 2014). More recently, co-design has emerged as a contemporary form of user-centred design in which multiple agents (designers, users and other stakeholders; each contributing their unique skills and motivation) gather to engage in a collaborative and iterative design process (De Couvreur 2016).

Along with this shift to a user-centred approach is increased interest in interprofessional collaborations, especially in design relating to healthcare and disability, where input from multiple disciplines enriches both process and product (Treadaway and Kenning 2015; De Couvreur 2016). Disciplines such as nursing (Stichler and Gregory 2012), public health, medicine and kinesiology (Pulse on Progress 2015) are getting involved early in the design process, contributing valuable insights regarding users' needs, wishes and wellbeing.

A relevant yet often under-recognized partner to consider for user-centred design projects is occupational therapy; an allied health profession dedicated to '[maximizing] health, wellbeing, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living' (AOTA 2016, para 1). Of particular relevance to collaboration with designers are occupational therapy's perspectives on person–environment fit, active client engagement and creativity.

Occupational therapy's ecological theory base highlights the important influence that a transactional relationship of person and environment has on function and performance of activities (occupation). A person's capacity to perform occupations is thereby seen as an outcome of a relationship among personal abilities, the demands of the environment, and requirements of activities (Iwarsson 2005). Occupational therapists are knowledgeable about diagnosis-related and developmental conditions, as well as about the physical, emotional and cognitive aspects of activity performance that impact function, independence, ergonomics, and safety (Bade and Eckert 2008).

A key tenet of occupational therapy is the importance of participation in purposeful and meaningful activities. Whereas society tends to favour function (therapy's product) over process, occupational therapy values both equally (Hinojosa and Kramer 1996). The engagement of a user in co-design could be seen as an example of an activity that holds purpose and meaning, both through the process of participation and by virtue of the design product itself.

Creativity and expressive arts are at the root of occupational therapy's origins. Since the 1960s, a shift towards a medically oriented mindset has led occupational therapy to focus on more measureable methods and outcomes, and therapeutic making has fallen out of favour, both in curricula and practice (Bissell and Mailloux, 1981; Schmid 2004). Nonetheless, occupational therapists report that creativity remains central to their profession as they adapt, innovate and problem-solve

personalized interventions for their clients, and colleagues from other health professions view occupational therapists as particularly creative (Schmid 2004).

Interprofessional collaboration between design and occupational therapy is not always obvious, especially to designers (Wagenfeld, Reynolds, and Amiri 2017), but rife with potential. To increase such partnerships, designers and occupational therapists should become more aware of each other's professions, take notice of natural entry points that invite collaboration and initiate joint activities.

Overlapping areas of interest

Three decades after Papenak's call, Margolin and Margolin (2002), referencing the work of environmental psychologist Lawton (1990), urged designers interested in a social agenda to partner with the helping professions. Lawton's team, comprising an architect, a social worker, an occupational therapist and a psychologist visited homes of older adults with impairments living alone. Testament to the key role of the occupational therapist is that this collaboration resulted in the creation of one of the first tools to assess person, environment and function: a room-by-room checklist designed to collect the characteristics of both person and environment, followed by a functional evaluation of daily living tasks and adaptive modifications, to be conducted by an occupational therapist (Faulkner et al. 2004).

When 'designing with' involves individuals who are limited in their ability to participate in the co-design process, occupational therapists can help represent user needs and abilities and advocate on their behalf. Such was the contribution of occupational therapists to the design of an easy-to-use videophone for people with dementia. The occupational therapists shared their knowledge on how people with dementia learn and use assistive technology, and recommended a self-explanatory and adjustable design that adapts to the progression of the disease. The occupational therapists provided insights on the process of acceptance that people with dementia go through before they are ready for assistive technology, and advocated for their right for autonomy and privacy when using the device, while balancing safety concerns of family members (Boman, Nygård, and Rosenberg 2014).

Similar contributions are reported in *Design for (every)one*, an interdisciplinary living lab that investigates the co-design of Do-it-Yourself 'hacks'. A team comprising a user with a physical disability, occupational therapy and industrial design students, and other stakeholders, 'made together' personalized prism glasses to compensate for the user's reduced neck movement and field of vision. The occupational therapists prepared the design brief, sourced a device, and worked with the user to optimize ergonomics and movement patterns through activity analysis, while the designers contributed knowledge and skill in ideating, producing and problem-solving through multiple iterations (De Couvreur 2016).

Several other recent examples have been reported of occupational therapy contributions to projects relating to user wellbeing in architecture (Nagib and Williams 2016), accessibility (Mattie et al. 2015) and assistive product design (Treadaway and Kenning 2015).

A lack of opportunity and understanding

Occupational therapists and user-centred designers share common interests in how people function within their environments. Despite the clear potential as described in the promising examples above, the present occurrence of such collaborations is low. In a recent survey on interprofessional collaboration between occupational therapists and designers, respondents from both groups reported near-equal low rates of collaboration, with only 31% (designers) and 33% (occupational therapy practitioners) having actually participated in such a partnership. Furthermore, both occupational therapists and designers displayed significant gaps in understanding each other's potential contributions to design projects. Far fewer occupational therapy practitioner respondents (39%) than design respondents (71%) believed that designers have the ability to create environments and products that meet occupants' needs. While nearly all of the occupational therapists surveyed (98%) felt that they do indeed belong on interprofessional design teams, designers were far less certain (69%). Respondents of both professions did agree on one thing; that the main barriers to collaboration are a lack of opportunity to meet and limited understanding of the scope and capacity of each other's respective professions (Wagenfeld, Reynolds, and Amiri 2017).

These findings, when juxtaposed with the many insights occupational therapy can bring to user-centred design projects, point to a gap between current attitudes and the strong potential for collaboration. While the field of design has grown and evolved in the past few decades, now focusing more than ever on the user, it has not yet identified the profession of occupational therapy as a source of expertise on how people function in and interact with the environment. The profession of occupational therapy needs to initiate such exchange of knowledge and continue to advocate for its place at the proverbial design table. The potential for growth is mutual; as occupational therapists continue to address the environment as part of their scope of practice, there is much that they can learn from designers. Designers are positioned to share with occupational therapists' iterative design methods, generative techniques, and assistive technologies to facilitate creation of solutions for clients' needs. By embracing such approaches, occupational therapists can become empowered and regain confidence in their innate creativity (Moraiti, et al. 2015). In order to create more appropriate, accessible, creative and inspiring environments in which users flourish, participate and achieve health and wellbeing, both occupational therapy and design should seek out opportunities to collaborate. There is a need to

introduce both professions to each other, initiate joint educational and research activities, and create more interprofessional design initiatives that blend the knowledge base and attitudes of both. An example of such was a recent research network training school (LUDI 2017), during which occupational therapists and designers joined other disciplines on interprofessional teams to collaboratively analyse play and design toys for children with disabilities. Initiatives such as these generate shared tools, knowledge and encounters that build familiarity and understanding across the professions. As with any collaboration, both sides will profit; however, in this case, the greatest beneficiary will be the user.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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